



DEPARTMENT OF DEFENSE  
PANEL TO REVIEW THE V-22 PROGRAM  
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MAY 17 2001

SUBJECT: Minutes of the March 5-8, 2001 Trip

*Chairman*  
*John R. Dailey*

*Panel Members*  
*Norman R. Augustine*  
*James B. Davis*  
*Eugene E. Covert*

*Executive Secretary*  
*Gary J. Gray*

**March 5, 2001**

Three panel members: General John R. Dailey, USMC (Retired) Chairman, Mr. Norman R. Augustine, and Dr. Eugene E. Covert, and four staff members: Mr. Gary J. Gray, Colonel Raymond E. Schwartz, Colonel Andy Steel, and Mr. Bryan O'Connor, departed Andrews Air Force Base on March 5, 2001, to New River, NC. Colonel Bartell, commanding officer, Marine Corps Air Station New River met the group upon arrival. The group was transported to the VMMT-204 office, where General J. B. Davis, USAF (Retired), the fourth panel member (who arrived New River the night before), met up with the group for the briefing.

Colonel Dick Dunnivan, Squadron Commanding Officer, opened the briefing with an overview of the VMMT-204 mission and continued with his staff to brief the following topics:

- Flight Operations
- Operational Risk Management
- Training and Readiness Syllabus
- Standardization
- Naval Air Training and Operating Procedures Standardization (NATOPS)
- Quality Assurance

During the briefings the Panel asked for more information regarding:

- Fidelity and currency of the Full Flight Simulator, upgrades and planned incorporation of software and hardware changes in relation to actual aircraft upgrades and changes.
- Data comparing V-22 syllabus with that of other USMC aircraft with regard to actual flight time vs. simulator flight time.
- Clarification on the "power by the hour" Rolls Royce/Allison Engine contract
- Effect that integrated electronic technical manuals (IETMs) have on Squadron Aircraft Readiness. Specifically, for the Squadron to quantify the impact that operational difficulties with IETMs have on squadron readiness under Optimized Naval Aviation Logistics Command Management Information System (NALCOMIS). It

appeared to the Panel that extensive operator time in search mode on the portable electronic display device (PEDD), time involved with writing the numerous Technical Publication Deficiency Reports (TPDRs), and time involved with tech assist request from the Osprey Support Center (OSC) were potentially counting against readiness (aircraft down time, mean time to repair (MTTRs), etc.)

- V-22 Aviation Consolidated Allowance list grew from an initial listing of 1,291 initial items to approximately 6,000 items. Is this normal for newly introduced aircraft?
- Request a list of Government Furnished Equipment (GFE) components, and a list of high failure rate GFE items that are common to other aircraft (mini-mark fasteners, generators, etc.)
- What is the status and scope of the software change corrections, technical product deficiency reports and technical assistance requests
- What is the turnaround time on corrections to IETMS? Provide stats on turn around time of discrepancies identified by squadron for IETMs.
- What is the official status of tech data/ tech pub validation and verification?
- What has been the impact of Optimized NALCOMIS? Provide comparison of readiness data before and after Optimized NALCOMIS.

Tours of the aircraft and meetings with V-22 personnel followed. Small meetings were conducted with maintenance personnel, crew chiefs, supervisors, operators and trainers (i.e., IETMs) to assess their concerns with the aircraft and it's maintainability. The Panel members toured the Fleet Replacement Enlisted Skills Training (FREST) schoolhouse and had the V-22 Integrated Multimedia Instruction (IMI) demonstrated to them. Mr. Augustine and Dr. Covert were then briefed by government and contractor personnel from the Osprey Support Center while Messrs. Dailey and Davis flew the V-22 Full Flight Simulator (FSS).

The panel and staff members then proceeded to MacDill AFB, FL, at approximately 6:00 P.M. BG Gary Heckman, Special Operations Command (SOCOM) Director of Requirements, and Major Mary McRae, point of contact, met the group.

### **March 6, 2001**

The group convened at 8:00 A.M. in the Special Operations Command (SOCOM) conference room. The commander-in-chief (CINC) his deputy, and numerous key staff members were present. The briefing consisted of:

- Introductions
- Overview of SOCOM Organization and Structure



- Mission Scope and Philosophy
- Joint Mission Analysis with Notional Mission Profiles
- Review of System Requirements
- Joint Operational Requirements Document (JORD) Shortfalls
- Operator and User Perspectives
- Top-line Recommendations

The briefing was followed by a period of open discussion.

The Panel asked for more information regarding:

- CV-22 navigation accuracy issues regarding inertial navigation system (INS) drift and global positioning system (GPS) dependency
- A listing of JORD shortfalls
- Integration of the IETMs system into the Consolidated Aircraft Maintenance Integration System (CAMS)
- Data on Maintenance man-hours per flight hour for SOCOM aircraft
- Impact of the funding cap on the block 0 configuration
- Training syllabus

The meeting ended at approximately 10:00 A.M. The panel and staff members then proceeded to Amarillo, Texas. Mr. Dwight Byars met the panel and staff member and transported them to the Bell Plant. The meeting agenda included:

Welcome/Introductions	Dwight Byars/Mike Kimbell
Overview of Bell Facility Geographics	Dwight Byars
Defense Contract Management Agency (DCMA) Strategy for Acceptance	Bill Cecil
Facility / Operations Overview	Dwight Byars & Others
A Facility Tour of Final Assembly Bldg And Flight Hangar	Dwight Byars
Wrap-up & Action Items	Mike Kimbell

The panel asked for more information concerning:

- Have Material Review Board actions increased or decreased during the life of the program?
- A listing of all subcontractors utilized by Bell
- Would it help the program to give the contractor access to NALCOMIS documentation
- Top readiness drivers and unfounded initiatives to improve readiness

The briefing concluded at approximately 5:00 P.M. The Panel and staff members proceeded to Fort Worth, Texas. Colonel Barney A. Grimes III, DCMA, met the Panel and staff members transporting them to their hotel.

### **March 7, 2001**

Mr. Terry Stinson (CEO) of Bell Helicopter welcomed the group and gave a "State of the Company" talk. Mr. Jack Gallagher conducted an area walk to the Tech Center for technology displays of the XV-15, Research and Development (R&D), Unmanned Aerial Vehicles (UAV), and IML. The agenda continued with:

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| • V-22 Requirements                           | Dick Spivey    |
| • Bell Program Management                     | Jack Gallagher |
| • Engineering Overview & Drive System/Rotors  | Dave Snyder    |
| • Cost Reduction Initiatives                  | Jack Gallagher |
| • Manufacturing Overview/Training & Processes | Mark Estep     |
| • Machining Center/Factory Tour               | Dan McIlroy    |
| • Plant 5-Machining Center/Factory Tour       | Mike Kitchens  |
| • Alliance BAAC Building                      | Jack Gallagher |

The Panel asked for more information concerning:

- Mean flight hours between aborts (MFHBA)
- Examples of any engineering investigations
- Nighttime night vision goggles desert landing issues
- Cost Reduction Affordability Team (CRAFT) initiatives, current status and associated funding. What is the plan to fund current CRAFT initiatives?

The meeting concluded at approximately 5:00 PM. The panel members and staff traveled by military aircraft to Philadelphia, PA. LTC Tony Bell, DCMA, met the group and provided transportation to the hotel.

### **March 8, 2001**

Mr. Pat Finneran welcomed and introduced the group and Boeing attendees. The agenda proceeded as follows:

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|------------------------------------|------------|
| • Philadelphia Site Overview/Rates | R. Krone   |
| • V-22 Program Update              | D. Moorman |
| • DCMA                             | LTC Bell   |
| • Avionics                         | M. Rolecki |

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| • Flight Controls/Hydraulics   | J. Thatcher      |
| • Flight Control Systems Integration Regular/<br>System Integration Lab/System Integration<br>(FCSIR/SIL/SIM) Tour | B. Oestreich     |
| • "Walk the Production Line" Tour  | J. Hilaman       |
| • Wrap-up/Action Items   | Finneran/Moorman |

The Panel asked for additional information on:

- Funding cuts
- Comparison of the last unit cost compared to the average flyaway cost of the CH-53E, CH-60 and CH-47F. Costs to include entire aircraft including Government Furnished Equipment
- Compare MFHBF and MFHBA of the V-22 with other aircraft when they were at this stage of development
- What Engineering Change Proposals are currently funded? What is their schedule for incorporation
- Boeing White Paper on IETMs. What would it take (time, money, etc) to get a paper maintenance publication system? What alternatives are there?
- Is there a plan to provide the Aviation Maintenance Event Ground Station (AMEG) codes to the maintainers?
- Is there a plan to mitigate false alarms

The meeting concluded at approximately 4:00 P.M. The panel members and staff proceeded to return to Arlington, VA.

  
J. R. Dailey